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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
KIM, JENNIFER M	
ART UNIT	PAPER NUMBER
1628	

NOTIFICATION DATE	DELIVERY MODE
12/15/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary	Application No.	Applicant(s)	
	09/367,950	EKSTROM, TOMMY	
	Examiner	Art Unit	
	JENNIFER M. KIM	1628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2009*.

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-36,38,42,43 and 49-66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-36,38,42,43 and 49-66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/31/2010;9/16/2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 16, 2010 has been entered.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 13-36, 38, 42, 43, 49-66 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 13-36, 38, 42, 43, 49-66 require steps to “providing” a patient as inhaler and “provide” a recommendation to use the inhaler ..”if” or ”when” the patient experiences acute asthma symptoms. It is noted that a process is an act or a series of acts, performed upon the subject matter to be transformed and reduced to a different

state or thing. Therefore, what happens after the providing steps, the actual administration of the inhaler to patient's body is not an element of the claim. There is no requirement a practical application actually be associated with this provided steps. "[a] process is … an act, or a series of acts, performed upon the subject matter to be *transformed and reduced* to a different state or thing." In re Schrader, 22 F.3d 290, 293-94, 30 USPQ2d 1455, 1459 (Fed. Cir. 1994), citation omitted. (See also State Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F3d 1368, 1373, 47 USPQ2d 1596, 1601 (Fed. Cir. 1998) holding that a claimed system was statutory subject matter because it produced "a useful, concrete and tangible result."). In this case, neither a transformation nor reduction would result from the claimed invention because the limitation that the patient actually performs the administration of the claimed composition is not an element of the claim. The "reduction" or "transformation" would only occur with the actual administration of the claimed combination. **Claim 13 only requires that the patient be instructed to do something (e.g. inhale a composition) on demand when the patient experiences an increase in asthma symptoms. There is no requirement that the patient actually inhale the composition (see Oral Hearing Transcript 7:11-19).** Thus, no reduction or transformation would take place with the claimed invention because the claims do not recite the necessary step of a practical application associated with the claimed recommendation. That is, the recommendation for action does not guarantee that the required step be taken which would achieve the claimed "reduction" or "transformation". Therefore, the claimed subject matter is deemed non-statutory.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 13-15, 17, 18, 20-36, 38, 42, 43 and 49-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carling of record.

Carling et al. on page 6, lines 5-30, teach the suitable daily asthmatic dose of formoterol fumarate dihydrate as required by claim 15 and budesonide within Applicant's daily dosage of "on demand" (twice a day) and the dosages strongly depends on the patient (age, weight etc.), severity of disease (mild, moderate, severe asthma etc..).

Carling et al. on pages 7-9 exemplify amounts of active agents per dose of inhalation, which calculate up to 8 inhalation per day without going over the maximum daily dosage.

Carling teaches at page 8-14, page 3, line 35 through page 4, line 10, lines 30-35, page 6, lines 5-30, and page 7, lines 1-5, teach a composition comprising Applicant's active agents use for treating respiratory disorder such as asthma set forth in instant claims.

Carling et al. at page 4, lines 3-10, also teach that the combination of formoterol and budesonide has not only a greater efficiency and duration of bronchodilator action but also a rapid onset of action.

The difference between Carling et al. and Applicant's invention is recommending a patient to use the inhaler as needed and when needed as determined by the patient based on the patient's symptoms, to provide short-term symptomatic relief of acute asthmatic symptoms, providing a recommendation to patient to inhale doses as needed if he experiences asthma including acute asthmatic episode, a specific carrier, the molar ratio of active agents, and the particle size set and recommendation resulting at least one use of the inhaler set forth in claims 49-66.

However, to recommend the patient to inhale, as needed, as determined by the patient's symptoms to treat and/or prevent acute asthmatic episode is obvious since Carling et al. teach that the effective dosages strongly depends on the severity of disease (mild, moderate, severe asthma) being treated and the suitable daily dosage is up to 8 inhalation. One of ordinary skill in the art would be motivated to recommend those asthmatic patients depend on the severity of condition such as mild, moderate, severe, to use the Carling's composition as needed bases up to 8 inhalations as suggested by Carling et al. in order to optimize the dosages and prevent further flare up depending on the severity of asthmatic conditions that each of the patients disclosed by Carlings. One of ordinary skill in the art would make such a modification in order to achieve maximum benefits of effective and safe daily dosages recommended by Carling et al. It is noted that combination of formoterol with budesonide is well known to be

beneficial for the treatment of asthma as taught by Carling et al. Moreover, if that patient experiencing acute asthmatic attack even with ongoing twice a day dosing regimen, he still can safely inhale additional 6 inhalations without going over the maximum suitable daily dosage in general asthmatic condition taught by Carling et al. to achieve its known therapeutic relief from asthmatic attack. The skilled artisan would have been motivated to recommend that those patients, currently using the specific Carling et al combination of formoterol and budesonide for maintenance therapy, use the combination during an asthmatic attack at a dose up to the limit recommended by Carling et al for such an emergency. One of ordinary skill would recognize that it is advantageous for the patient to self-administer the treatment to avoid the dire consequences of waiting for professional assistance.

Further, patients disclosed by Carlings including those taking twice a day regimen (at least one occasion), e.g. two-times per day to prevent and treat asthma symptoms would be included in the range of "as needed as determined by the patient" because those patients may only “need” twice a day dosing per their medical condition.

The molar ratio of active agents to be used set forth in claim 14, the selection of carrier set forth in claims 23 and 24, and the particle size of active agents set forth in claim 22, are all deemed obvious since they are all within the knowledge of the skilled pharmacologist and represent conventional formulations.

With respect to providing recommendation to the patient to inhale the provided inhaler compositions such is obvious since it is routine medical practice to a medical practitioner to recommend or suggest to use the medication to their patients. Further, to

providing an inhaler comprising a storage compartment with a composition comprising the active ingredients are not only obvious but it is necessary.

Claim 16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carling et al. of record as applied to claims 13-15, 17, 18, 20-36, 38, 42, 43 and 49-66 above, and further in view of Aberg et al. (U.S.Patent 5,795,564) and Ryrfeldt et al. of record.

Carling et al. as applied as before.

Carling et al. do teach the isomer of formoterol set forth in claim 16 and the specified epimer of budesonide set forth in claim 19.

Aberg et al. teach (R, R) isomer of formoterol as required by claim 16 is a potent bronchodilator with reduced adverse effects in treatment of asthma. (abstract, column, 1, lines 25-35).

Ryrfeldt et al. teach that 22R epimer of budesonide is more potent in the treatment of bronchial asthma than 22S epimer.

However, it would have been obvious to one of ordinary skill in the art to employ (R, R) enantiomer of formoterol and 22 R epimer of budesonide in view of Aberg et al. and Ryrfeldt et al. because both of the references of Aberg and Ryrfeldt teach specific isomers form that possesses potent asthmatic effect of the active agents utilized in Carling reduced adverse effects in treatment of asthma. One would have been motivated to employ (R,R) isomer of formoterol and 22R epimer of budesonide in

Carling's composition with reasonable expectation of successfully treating asthmatic patients with reduced adverse effects.

For these reasons the claimed subject matter is deemed to fail to patentably distinguish over the state of the art as represented by the cited references. The claims are therefore properly rejected under 35 U.S.C. 103.

Response to Arguments

Applicant's arguments filed June 16, 2010 have been fully considered but they are not persuasive. With regard to 35 USC § 101 rejection, Applicant argues that a "transformation" does occur when a patient is transformed into someone with an inhaler and recommendations for use of the inhaler, as in the presently claimed methods.

This is not found to be persuasive because without the actual administration of the claimed composition, there is no occurrence of "transformation". It is noted that there is no requirement that the patient actually inhale the composition (see also oral hearing transcript 7:11-19). Therefore, what happens after the patient is recommended to inhale the composition is not an element of the claim. There is no requirement a practical application actually be associated with the "recommendation" and "providing an inhaler". "[a] process is … an act, or a series of acts, performed upon the subject matter to be *transformed and reduced* to a different state or thing." In re Schrader, 22 F.3d 290, 293-94, 30 USPQ2d 1455, 1459 (Fed. Cir. 1994), citation omitted. (See also

State Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F3d 1368, 1373, 47 USPQ2d 1596, 1601 (Fed. Cir. 1998) holding that a claimed system was statutory subject matter because it produced “a useful, concrete and tangible result.”). In this case, neither a transformation nor reduction would result from the claimed invention because the limitation that the patient actually performs the administration of the claimed composition is not an element of the claim. Again, a recommendation for action and providing an inhaler do not guarantee that the required step be taken which would achieve the "reduction" or "transformation" in the process claims because there is no requirement that the patient actually inhale the composition (see oral hearing transcript 7:11-19).

With regard to 35 U.S.C. 103 rejection, Applicant argues that Applicant has previously pointed out that Carling says the combination should be administered just twice per day (BID) and that the Examiner has acknowledged. The examiner is in agreement with Carling's teaching of BID dosing, however, the Examiner has also pointed out previously that Carling et al. on pages 7-9 exemplify amounts of active agents per dose of inhalation, which calculate up to 8 inhalation per day without going over the maximum daily dosage in the treatment of asthma. Therefore, one of ordinary skill in the art would immediately recognized that a patient experiencing acute asthmatic attack even with ongoing twice a day dosing regimen, he still can safely inhale additional 6 inhalations without going over the maximum suitable daily dosage in general asthmatic condition taught by Carling et al. to achieve its known therapeutic relief from asthmatic attack. The skilled artisan would have been motivated to

recommend that those patients, currently using the specific Carling et al combination of formoterol and budesonide for maintenance therapy, use the combination during an asthmatic attack at a dose up to the limit recommended by Carling et al for such an emergency. One of ordinary skill would recognize that it is advantageous for the patient to self-administer the treatment to avoid the dire consequences of waiting for professional assistance. Applicant argues that that Applicant has previously explained that the teaching in Carling about varying the dosage according to the "severity of disease" means that the physician should set a dosage (always to be administered twice per day) based on the patient's severity of disease, certainly not that the patient is free to do so. This is not persuasive because again, Carling teaches the safe and effective daily dosage of the combination, which calculates up to 8 inhalation per day (page 7-9 examples). Therefore, it would be obvious to one of ordinary skill in the art to recommend to the patient in need of treating/preventing asthmatic attack to self-administer the treatment up to the safe and effective daily amounts to avoid the dire consequences of waiting for professional assistance in the emergency situations. Applicant argues that the Symbicort® Turbohaler® should be administered twice per day unless the patient's doctor has decided that administration just once per day is sufficient to control the patient's symptoms. To this response, it is the Examiner's position that safe and effective dosage of the combination for the treatment of asthma is already and known in view of Carling et al. Therefore, the instructing to self-medicate at the time of exacerbation of unexpected asthmatic attack when needed as determined by the patient with out going over the daily safe and effective amounts taught by Carling

have been obvious to a person having ordinary skill in the art, in particular the attending clinician. Accordingly, one of ordinary skill in the art would take account of the inferences and creative instructions that a person of ordinary skill in the art would provide such instructions and recommend patients to self-administer in an event of emergency within the limits of the known safe and effective daily amounts and a dosing frequency taught by Carling. (*KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). *See also id.* at 1742 ("A person of ordinary skill is also a person of ordinary creativity, not an automation.").

> The Applicant provides new evidence as surprising results in Appendices A-E. Appendix A is the teaching of Kuna et al. which compares the claimed invention with a higher dosage of budesonide and formoterol fumarate dihydrate. The results show that the claimed invention delivers asthma control at a lower overall drug load compared to fixed dose budsonide/formoterol.

The Examiner does not find Appendix A persuasive to overcome the art because Kuna et al. also teaches that all treatments provided similar marked improvements in lung function, asthma control days and asthma-related quality of life (see abstract). Thus, Carling et al. still obvious reads on the claimed invention (i.e. a method of treating asthma ….) as discussed above.

> The Applicant argues that Appendix B is the teaching of Rabe et al. which compares the use of budesonide/formoterol in a twice-daily maintenance treatment and either a reliever therapy of budesonide/formoterol, formoterol, or terbutaline. The results showed that the

> budesonide/formoterol combination both for maintenance and for as-need relief lowered the rate of exacerbations in the patient.

The Examiner does not find Appendix B persuasive to overcome the art because Kuna et al. also teaches that all treatments were well tolerated (see abstract). Thus, regardless if the rate of exacerbations were lowered, the Carling et al. method still treats asthma. For reasons given above, the Examiner still reads that Carling et al. obviously teaches that a patient can take an additional dosage as needed.

> The Applicant argues that Appendices C and D compare methods in accordance with the present invention to other methods of treating asthma and found that the presently claimed methods were far superior in reducing the number of exacerbations, as well as by other measures of efficacy.

The Examiner does not find Appendices C or D persuasive to overcome the art because of the reasons below. First, Scicchitano et al. teach a comparison between budesonide/formoterol for both maintenance and symptom relief versus a higher maintenance dose of budesonide. Second, Bousquet et al. teach a comparison between the claimed invention and a combination of salmeterol/fluticasone, in which the claimed invention reduced exacerbations. Although, the adjustable maintenance dosing is more effective, Scicchitano et al. also teaches that both the fixed and adjustable dosing treatments were equally well tolerated (see page 1404, right column, last six lines). The Examiner would still like to point out that the Carling et al. method still effectively treats asthma, in which the claims are drawn toward. For reasons given above, the Examiner still reads that Carling et al. obviously teaches that a patient can

take an additional dosage as needed. Thus, Carling et al. obviously teaches the claimed invention.

> The Applicant argues that Appendix E taught by D'Urzo teaches the remarkable and surprisingly good results that may lead to changes in the paradigm of asthma management of the claimed invention. Thus, the claimed invention is not obvious.

The Examiner does not find Appendix E persuasive to overcome the art because given above. First, the Carling et al. method is effective in treating asthma. Although the additional doses are not expressly recommended, it is not impossible to not take an additional administration if the patient *feels the need* for treatment. In an asthma attack, if a patient is faced with not breathing and taking an additional administration within the safe inhalation amounts, one would find that the patient would take an as-needed administration. To clarify further, the inserts of Exhibit 2 obviously address the patients that use the medication "as needed", thus proving that patients will use the medication "as needed" even though it is not recommended. In other words, the statements in D and E show evidence that patients will take additional medication when needed without the doctor's advice. Further, if the patient did not need the additional administration, the prior art obviously reads on the claimed invention.

Thus, the claims fail to patentably distinguish over the state of the art as represented by the cited references.

None of the claims are allowed.

Communications

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER M. KIM whose telephone number is (571)272-0628. The examiner can normally be reached on Monday through Friday 6:30 am to 3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brandon Fetterolf can be reached on 571-272-2919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JENNIFER M KIM/
Primary Examiner, Art Unit 1628

Jmk
December 6, 2010